SATURDAY, MARCH 6, 1875.

ORIGINAL COMMUNICATIONS.

ON THE USE OF NITRITE OF AMYL IN VARIOUS FORMS OF SPASM, AND ON ITS VALUE AS AN AID TO DIAGNOSIS.

Read before the Philadelphia College of Physicians, February 3, 1875,

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THE history of the employment of nitrite of amyl in epilepsy and in other forms of spasm is brief, and necessitates the mention of but few persons. Excepting its use in angina pectoris and in asthma, this powerful agent had been little resorted to when, in April, 1872 (see *Philada. Med. Times*), I reported cases of its use to arrest epileptic attacks. During the same year I advised Dr. Jenks to test its value in puerperal eclampsia, which he accordingly did do, reporting his success in the same journal in 1873. During that year (*Arch. Sci. and Prac. Med.*, No. 4, p. 311, C. E. Brown-Séquard and E. E. Séguin, New York), Dr. Wharton Sinkler, then my assistant at the Infirmary for Diseases of the Nervous System, related a remarkable case in which nitrite of amyl had been freely used with admirable results. Since then, in the *Medical Times* and in the *Reporter*, July 25, 1874, I have more briefly alluded to the value of this agent as a means of diagnosis.

I make this statement as an introduction to what I shall have to say of the nitrite, for two reasons: first, because it shows that what I shall state is founded on no brief or recent experience; and second, because it seems to be unknown in England that it had been long used as an antispasmodic agent in America. I infer this from the fact that Dr. Crichton Browne (*West Riding Lunatic Asylum Medical Reports*, 1873), in a very able essay on nitrite of amyl in epilepsy, while recognizing its value, does not allude to its previous successful employment in this country.

In this present paper I propose to bring together all that I have done or suggested as regards the use of this powerful agent.

For more than a year I had been aware that nitrite of amyl would be a proper means to use in epilepsy. It was clear to me that the nitrite caused, with rapidity, fulness of the vessels of the whole head, and that near to the outset of an attack of epilepsy there is a condition of vasal spasm. I hoped that I would be able by the use of the nitrite to counteract this state of vascular contraction, and so to break the chain of morbid phenomena, and thus end the attack before its more disastrous consequences should follow. This reasonable expectation was not disappointed. I was, of course, well aware that in most cases of epilepsy there would be no time to secure the inhalation of enough of nitrite of amyl to produce an effect, but I was also aware that in at least two classes of epileptics the opportunity for its use would be given. There are rare examples of epilepsy in which the warning of the coming on of an attack so far precedes the spasm and loss of consciousness as to enable the patient to inhale the nitrite. In other cases the patient has a succession of fits within a limited space of time, and being then, of necessity, in bed, is so placed that a watchful nurse may find time to use the nitrite. I waited long for my first chance, but in March, 1872, the opportunity came. I give this case at length as I first reported it in the *Philadelphia Medical Times*, April, 1872.

J. C., æt. 23, was excessively prone to self-abuse until, at the age of eighteen, he began to indulge to an extravagant extent in venery. At twenty he had a chancre, but thus far no secondary results. On the 4th of March, 1871, he became slightly intoxicated, went to a neighboring city, and for some days gave himself up to sexual excitements to such an extent, as he described it to me, as to show that either he had unusual virile power or that he exaggerated his prowess. Be this as it may, there is no doubt that he ran into great excess, and that the punishment was distinctly born of the offence. On March 9 he felt feeble but nevertheless had connection four times that night. On the 10th he had, twice, twitching of the left forefinger. On the 11th this grew worse, and on the 12th, after unusual sexual excesses, he had a prolonged spasm of the left arm. It began in the hand, and in a few minutes involved all the fingers in forced flexion. Then the wrist bent, and the flexed fore-arm was forcibly contracted. The attack, which surprised the patient but did not alarm him, ended with slight vertigo. A week went by without further trouble, when a series of complete epileptic fits began, always preceded by the local convulsions which I have described. The fits, which at first came on daily, soon lessened in number, and of late have recurred but once a week. On two occasions they have been sudden and without warning, but in all other cases the hand has been affected with spasm, followed in a few minutes by vertigo, twisting of the head to the left side, left unilateral convulsion, and, finally, bilateral spasms, with occasional tongue- or cheek-biting. The attack is followed by prolonged stupor.

Many remedies have been vainly employed, and even the bromides in full doses failed to do more than lessen the number of attacks; while strychnia, valerianate of quinia, and other agents have all alike failed to afford relief.

I made many experiments with a view to cutting short the fit by interfering with the precedent local spasm; but neither blisters along the nerve-tracks, which are not tender, nor a ligature tightly applied, proved of any use. I then gave the patient a drachm of chloroform in a phial, directing him how to inhale it from a handkerchief, but soon found that he was unable to inhale enough of it to serve his purpose. As a last resort, I gave him in a very small phial three or four drops of nitrite of amyl, and showed him how to inhale it by putting the open phial up one nostril while with one finger he closed the other and then made a few full inspirations. The first attempt failed, because, as he said, the spasm of the left limb made him nervous. On the second occasion he began to breathe it the instant the fingers twitched, having pulled the cork of the phial with his teeth. In a few moments he felt his face flush, the carotids beat violently, his head felt full, and, the spasm ceasing, the attack at once, and for the first time in his experience, was cut short. Four days later he thus cut short another attack; and the experiment has since succeeded in eleven fits, and failed, from too late use of the nitrite, in two. More-

over, the attacks have lessened in frequency, and now come on only once in ten or twenty days. Not only is there no evil effect from the drug, but his memory has improved. He is again taking bromide of lithium.

The case above quoted has since then continued to improve. During the last two years and a half he has had only seven fits, the last being nine months ago. I said seven fits, but in reality only one fit, all of the others having been cut short by the nitrite. A year ago he ceased to employ any bromide, and has been since then using only phosphorized cod-liver oil with strychnia.

Since this case demonstrated for me the remarkable power of this agent to check spasm, I have given it for that purpose a number of times, its value being limited by the rarity of cases in which there is time to secure its full inhalation. In some of my examples the chance of using it has been occasional only, not all of the attacks affording the time needed to secure its value.

J. C., æt. 32, was a good case of this. He had fits about once a week. The persistent use of thirty-grain doses of bromides kept the case in control; but two or three days' omission of this agent was sure to bring about a return of the attacks. His fits came on with a violent spasm of the thumb of the right hand. In most instances they became general too rapidly to admit of interference, but perhaps once in three or four times there was at least a minute of painful spasm of the right member before the loss of consciousness. On four occasions this man was able to use the nitrite, and in each case the fit was aborted.

In both of these cases the warning was in the form of a commencing unilateral spasm. In the following case there was a gastric aura which preceded the fit by an interval so long as to enable the sufferer to inhale the nitrite.

Miss E., æt. 26. Has had epilepsy seven years. Her whole history it is needless to relate. About one minute before the fit comes on, Miss E. has a sense of what she calls "goneness," at the epigastrium. This sensation passes into nausea, and apparently the fit interferes with the consequent vomiting which very rarely follows.

This form of aura is certainly rare. In a single case, during the war, I saw an epilepsy in which emesis, lasting half an hour, preceded the fit. It was cured by full doses of emetics given promptly at the moment nausea was felt. In Miss E.'s case the fits have gradually lessened in number and severity under the use of full doses of nitrate of silver. The nitrite of amyl instantly arrests both the nausea and the subsequent fit; but the sense of fulness in the head so alarms Miss E., who is a highly nervous and emotional person, that she is very averse to using it.

The following case, which, apart from the use of amyl nitrite, is one of the most remarkable known to me, was reported by my former clinical assistant, Dr. Wharton Sinkler, in the *New York Archives of Medicine;* but as these were seen by but few, and had a brief existence, I make no further apology for quoting enough of it to show how valuable the nitrite of amyl may be during the epileptic state.

James M., æt. 24, single. November, 1871, fell ninety-five feet, and had fractured ribs, dislocated ankle, and fracture of the lower dorsal spine. Unconscious one week. Subsequent palsy of legs, and insensibility. He was five months in this state, and had all of this time incessant headache; then he began to have convulsions, and lost hearing and speech.

When he entered the Infirmary for Nervous Diseases, he walked on crutches, but the left leg was palsied totally and much contracted. The tongue and velum were paralyzed, and he was deaf and speechless.

On the fourteenth day after entering, he had a fit, and they became almost incessant. Blood was taken from his neck, and almost at once hearing came back, but the fits, which were violent, continued.

Nitrite of amyl was now used. It checked a long fit instantly, and after this it was given whenever a fit took place and it could be used in time. In every instance it aborted the fit.

It is needless to say more, save that he became, under various treatment, a strong and really quite vigorous man, able to do a hard day's work.

With this case I close my evidence as to nitrite of amyl in epilepsy. I have never seen it fail where there was time to use it. Last week I suddenly checked with it a fit coming on in my office, and a few months ago had the chance of exhibiting to those present at my clinic its capacity to stop for hours the convulsions of tubercular meningitis in a child.

From what I have seen of this agent, it does not seem to possess, in most cases, any capacity to lessen the probability of a return of the fits; but of its power to arrest the actual convulsion there can be no doubt. As I have already mentioned, I asked Dr. William Jenks to test the nitrite in puerperal convulsions. His evidence as to this point still awaits confirmation by other observers.

I have spoken of the use of the nitrite in the convulsions of tubercular meningitis. I have not yet used it in forms of spasms from peripheral irritation in children, but it would be, I should think, a safe and a ready agent. Neither has it been as yet employed in the horrible convulsions of uræmia.

Before passing from this subject, I am tempted, at the risk of some detail, to speak of a case which is remarkable for the fact that the patient is liable to several, at least three, forms of attack, and that the nitrite while it checks one of these does not seem to affect the second form, and as to the third, far from relieving, only makes it worse. This case has never been published, and I do not hesitate to give it in full, since it is of extreme interest, and distinctly illustrates the possibility of a patient being subject at one time to attacks involving anæmic states, and at another to those which are attended with opposite conditions.

The patient is a cultivated and energetic clergyman, æt. 35, a resident of a neighboring city. He is free from obvious physical disease, and, despite his disorder, is capable of doing, and does do, an abundance of work, involving sometimes severe taxation of mind and body. There is some doubtful evidence as to a sunstroke in his later boyhood, but his first attacks of *petit mal* seem to have come on during the war, while in service with the militia, —known as the six-months' men. At this time he was physically over-taxed, and was greatly exposed

to the summer sun, and slept at night without shelter. I shall leave his graphic statement of his case to tell its own very interesting story.

DR. S. WEIR MITCHELL: May 21, 1873.

MY DEAR SIR,—I have been troubled for some time past with certain seemingly nervous attacks, the precise character of which, however, I fear it may be very difficult for me to explain, inasmuch as it must always be necessarily hard accurately to describe our feelings in words. But, that I may be able the more clearly to set before you the symptoms accompanying them, I have taken the liberty, simply for my own convenience, of dividing them into several classes, each of which seems to me to have its own peculiar characteristics.

1. Those which have come to be most serious with me, I have learned to denominate as attacks of forgetfulness. My first feeling when one is coming on is of severe oppression across the chest, which sometimes makes it very difficult for me to breathe, and always causes me at once to try to get into the fresh air. This I seldom accomplish, however, as the oppression is almost instantly succeeded by a nervous feeling which creeps over my whole body, and seems to change all the conditions of my existence. I unconsciously move my mouth as if chewing, and sometimes will also grit my teeth. The things around me seem to be moving, and, if I am reading, the book will appear to be going from me, when at once I feel as if all must be a dream, though well knowing at the same time that it must be reality. Then everything seems to leave my memory, and I keep continually striving to connect my thoughts with some event in the past, which seems to be hanging over me, but which I cannot yet recall. Indeed, my whole state of mind at such a time may be best compared to the feelings of one suddenly awakened out of a sound sleep. He cannot catch hold of the dream which seems to be quickly passing from him, and at the same time he cannot yet appreciate the state of consciousness into which he has so suddenly awakened. And thus unable to realize his surroundings, and equally unable to grasp the quickly-fading past, he remains in that disagreeable intermediate state, so to speak, which each one of us has at times experienced.

Now, just so it is with me in these attacks. There is always something going from me which it is impossible for me to recall, and, at the same time, an inability to realize the actuality of my surroundings, while through it all, the fear of some impending catastrophe seems to be hanging over me. This fear seldom goes with the attack, and sometimes, if the attack has been a severe one, will haunt me for three or four days afterwards.

During these attacks I can walk, talk, or use my hands, though everything I take hold of has a strange feeling to my touch. They last generally from two to four minutes; when a considerable belching of wind takes place, and immediately things begin to assume an appearance of certainty about me. But then a violent perspiration pours forth from my forehead, and a feeling of extreme prostration and weakness in the knees comes over me. The past which had gone from me, however, only returns to me by degrees, and some things which have thus faded from my memory never return. For example, books which I have read previously, and even marked and made notes upon, may be taken up by me afterwards as entirely new books. Sermons which I have written with considerable care may be read by me as productions which I had never seen before, and different cities or places may be visited as entirely new sights; while, on the other hand, there are things which I will continue to remember with even more than ordinary distinctness; and books that I have read and sights that I have seen years ago seem to have an equally strong hold upon my memory.

I can give no rule for that which I forget and that which I remember. The first of these attacks which ever came to me occurred in the summer of 1863. I had gone out with the militia at the time of the Gettysburg raid, and such was the extent of the forgetfulness caused, that at the time I could not recall where I was and how I came to be there, and many of the incidents and places of the campaign, fresh in the minds of my companions, have ever continued to be an utter blank in my memory. I may add that we were without tent-shelter, and that I was thus exposed both day and night.

2. The second class of attacks I would denominate as paralyzing. They come on very much as the others, but more suddenly, and the feeling of oppression in the first is rather one of hollowness in these; then at once my right hand becomes fixed across my breast, and I lose all control over my words. My mouth moves even more than in the other attacks; and while I can enunciate, yet I am unable to converse, as I cannot recall even the most familiar words or forms of expression that I may endeavor to. The same feelings of uncertainty usually surround me as in the others, though by no means as severe. But no perspiration or such extreme weakness follows, and the general after-effects, though of the same nature, do not begin to compare in their severity with those of the former. The signal for the discontinuance of these attacks is likewise a belching of wind, and indeed this is the case with all of them, whatever be their nature. This class of attacks does not date back over a year.

3. Both these classes of spells may occur at night, and, unless I am awakened by some one, I will generally sleep through them. But I would immediately awaken any one who was near me, by the peculiar smacking of the mouth and gritting of the teeth to which I have alluded. This does not date back over six months.

4. Flush attacks also come upon me rarely. They commence as though I were going to have a severe attack of forgetfulness, but seem to be turned off sometimes by the power of my will, and sometimes by the mere belching of wind, while others culminate only in a severe perspiration.

5. Ordinary attacks of dizziness are common to me, though without any of the feelings or effects which accompany any of the former attacks. Yet they are sometimes so severe that in my walks I must sit down, or go up to a store-window where I can stand still, have something to hold on to, and shut my eyes. These are generally controlled by an effort of the will if taken in time.

6. Scarcely a day passes that I do not have at least one spell of double sight; and in analyzing such double sight I have found that the false image is made by the right eye, and seems to fall from one to six inches above the object. I always have spots in front of the right eye, and which sometimes seem to form themselves into an image of the eye about one foot in front of it. These three classes of attack (4, 5, 6) date back from twelve to fifteen years.

7. I have considerable and severe pain through my right eye. It generally begins with a severe headache in the early morning, which by ten o'clock has entirely settled in the eye.

I have been troubled with this eye-ache for fifteen years, and it was wont to come regularly every week on Sunday, though lately it has been far less frequent, and very irregular in its return. It has not seemed to have any connection with my other attacks until recently; but now, when an attack comes on while I am suffering from pain in the head or the eye, the pain, be it ever so severe, will leave me during the continuance of the attack.

Apart from these troubles, I enjoy very good health,

though I always have an excess of wind in the stomach and bowels, and am continuously afflicted with a severe catarrh in the head, and considerable thick phlegm. The raising of wind, as I have said, often prevents the culmination of an attack. I have no headache with the exception of that spoken of, which is a beating one, never lasting beyond ten or eleven o'clock in the morning.

Despite the existence of stomachal symptoms, no amount of attention to the stomach and no form of diet seems to make much difference in his attacks. I have all along regarded his case as allied to epilepsy, and was glad to find that Dr. Hughlings Jackson, who has seen him, shared this opinion. In its favor is the fact that the bromides are capable of giving him great immunity from the fits, but when used in the full doses required they rapidly enfeeble him, and very soon weaken his memory, so that they have to be used with the greatest caution, and guarded by the constant employment of arsenic. The eye-ground presents no peculiarities. He speaks of several forms of head-trouble. In the spasmodic attack the right thumb is first turned inwards; then the fingers, and lastly the wrist, are forcibly flexed. Rarely the neck is twisted, and more rarely the right face. This form of fit is cut short by the nitrite. As the face flushes the attack passes off. The spells of pure giddiness have been frequent of late. They come on suddenly, and there are none of the strange mental conditions which attend the other spells. Now, in these vertiginous fits, the nitrite if used early only hastens the culmination of the trouble, and, he believes, greatly intensifies it.

I have made frequent use of nitrite of amyl in a variety of forms of disease, chiefly spasmodic, some of them hysterical, and some of indeterminate birth and relationship.

Its influence over cases of hysterical angina is as well marked as in those of men, or in non-hysterical attacks of this disorder. I have twice employed it in forms of disease which are akin to angina, are not infrequent, but lack a distinct name.

Here is one which may pass as an illustration.

A middle-aged lady, after many and grave trials during the late war, began to suffer from occasional attacks which came at any time in the day, held no relation to conditions of the stomach or uterus, but were at last most frequent and distressing. A sense of fulness at the epigastrium announced the attack, and from the stomach a sort of aura, accompanied with a feeling of panic and terror, passed up into the head, with intense pain in the right neck and face, the infra- and supra-orbital region, and at last a few moments of deadly pallor ended the attack, which occasionally wound up with nausea and rarely with emesis. There was no irregularity of the heart, no pain in the arm, only a slight quickening and enfeeblement of pulse towards the close of the attacks, which usually lasted from one to five hours, and when I saw her were of daily occurrence. After a trial of many means, I at last used the nitrite of amyl. The effect was singularly happy, and it was very rare that it failed to break up and dispel the trouble. After a time I gave her a small vial of the nitrite, and this she continued to use, her attacks growing less frequent and less severe. When I heard last from her, they were still under control of the nitrite.

I come now to speak, and with rather more hesitation, of the use of this agent as an aid to the diagnosis of certain forms of cerebral disorders.

Those who see much of neural diseases meet very often with cases of head-troubles in which there are attacks of vertigo, or disturbed equilibrium, or mere sense of fulness with or without mental disorder. Occasionally these troubles are plainly not epileptic. Sometimes they are either epileptic and distinctly so, or else are the far-away beginnings of that malady. Sometimes a therapeutic diagnosis is possible, and the mere fact of the bromides controlling them may, when taken with the symptoms, clearly settle their nature. But very often our suspicions are in favor of their being purely vascular disturbances of congestive type, and then I think that the nitrite of amyl may prove serviceable in settling the question; since in such cases the inhalation will sometimes recreate briefly the train of symptoms, so that they are at once recognized by the patient. This, when it occurs, is fairly conclusive as to the attacks having been truly congestive in character. The negative has also its value. Personally I have obtained useful help from this means, but I look upon the whole matter as one which it is well to present to the profession as worthy of study, without at present claiming for it any very great utility.

I give below cases to illustrate the use of the nitrite in diagnosis:

E. L., accountant, a very nervous and irritable person, æt. 29. Has spells, two or three times a week, in which he is said to lose consciousness, without any coexistent spasm. On other occasions the trouble does not go so far as this. Has been told the attacks are epileptic. On inhaling nitrite of amyl, he said at once, "That is the kind of feeling I have in my attacks." Then he asked to have the inhalation repeated, and again recognized the symptoms as like those he had had. I came soon, thus aided, to understand, with no doubt in my mind, that his fits were coincident with relaxation of the arterioles. He was rapidly cured by full doses of digitalis with general tonics and cold shower-bath.

I. C., æt. 40, lawyer. This gentleman has vertigo, in which external objects float around him, from right to left. He does not know if he flushes in the attacks. I can find no reason for them in the state of any extra-cranial organ; nitrite of amyl causes in him the usual symptoms, but no trace of vertigo. This is a fair type of many cases in which I have used nitrite of amyl. It never reproduces the vertigo.

Robert H., æt. 38; a master of an oyster-boat; had a slight sunstroke in August, 1873. Ever since, he has a great deal of vertex headache, with now and then severe attacks of general headache. I was inclined to believe that the vertex pain was due to subacute meningitis. It was suddenly made worse by nitrite of amyl, to which he was very sensitive. I have said that it was made worse; it was in fact increased by this drug to such a degree for a few minutes as made me regret my experiment.

I might multiply these examples. In some cases the nitrite has failed to help me, in others it has returned a useful negative, in others a still more valuable affirmative. I shall add but a single case.

Mr. Ph. C., æt. 43, had, ten years ago, a malarial fever, followed by a sharp attack of cerebral peripheral meningitis. From these diseases he recovered, but has had ever since, at brief and briefer intervals of late, left frontal headaches. Within six months these are accompanied with certain very curious disturbances of speech, which last for but a few hours during the height

of the headache. At these times he pronounces certain words as if the first letter or first syllable had no existence. Thus, a very bad dog would become a *ery ad og*. Sometimes he adds the first syllable of one word to the next, and its first to that of the preceding word. Thus, a bad dog would become *a gad bog*, and so on. In these attacks the left temporal artery throbs visibly and most remarkably, but the face does not flush. The attacks occur always after dark, but when I gave him nitrite of amyl in my office I suddenly reproduced the headache and the train of peculiar lingual phenomena. He said *top* for stop. *Hat turts*, that hurts. *Thy med robs*, my head throbs. The effect passed off suddenly, and his usual control of language returned.

As to this case there could, I think, be little doubt that the cause lay in an over-readiness of the vessels of the left anterior cerebral lobes and subjacent meninges to fill up with blood, and so for a time to disturb the nutrition and function of the parts concerned.

I find physicians very timid as to this remedy, but, after much and long use of it, I have altogether lost the dread of it with which I began. I would suggest that in syncope and in hysterical convulsions it might well repay a trial, and that possibly in the cerebral symptoms arising from shock it may also prove of value, and should be essayed in the cold stage of ague.

ON THE DETECTION OF ORGANIC MATTER IN DRINKING-WATER.

BY CHARLES McINTYRE, M.D.

AS the time is approaching when the medical societies in the several counties of the State will prepare their reports to the State Society, and since a resolution, adopted at the Easton meeting, instructs the county societies to incorporate in their reports certain facts as to the condition of the potable waters when in the vicinity of graveyards,—among other things, as to their purity,—a few words on the examination of such waters may be of interest.

A full examination of the character of a potable water as to its organic constituents is, perhaps, one of the most difficult problems in the ordinary run of analytical chemistry. There is organic matter decomposed, decomposing, and ready to be decomposed, to be looked for; a discrimination to be made between organic matter of all grades, from the perfectly inert up to the pestilence-producing; and, more, these frequently can only be recognized by the products of decomposition, usually the same from all classes mentioned.

R. Angus Smith (*Chemical News*, xix. 278) thus classifies the organic material:

1. Organic matter decomposed or putrid.
2. Organic matter readily decomposed, and probably ready to become putrid.
3. Organic matter slow to decompose.
4. Recent organic matter.
5. Old organic matter.
6. Animal organic matter.

While this is the case, yet, for a physician's practical purposes, there are a few tests which would put him on his guard, and at least give more accurate results than relying solely upon the presence of ammonia, as recommended in connection with the resolution of instructions.

It is foreign to our purpose to discuss whether, under the conditions of the resolution, ammonia would be always present if the water was contaminated; but, since an examination is in contemplation, we wish to suggest the method of obtaining more reliable results.

The tests described are all in use by experts in water-analyses; they have been altered, in some cases, in the details, so that they can be applied by any physician with an ordinary amount of apparatus. Of course, only *qualitative* examinations can be made, and approximative results obtained. While these, for purposes of scientific investigation, or even for a full report on the wholesomeness of any water, would be nearly useless, nevertheless, for the purposes indicated they are of more value than the more delicate tests or the *quantitative* determinations, since they can be used on ordinary occasions, while the latter would require the special apparatus of a chemical laboratory with the skill of a professed chemist. This distinction is insisted upon, because the whole subject of the determination of organic material in water is, if not in midnight gloom, only in the morning twilight; and so much has been written purporting to give accurate results while only employing these approximate methods, that the not yet cleared-up subject has been made rather the more misty by such work. But to plunge *in medias* without further preface.

We may have organic material—

I. As to its derivation: *animal*, or *vegetable*.

II. As to its condition: *not decomposed*, or *decomposed*.

a. If not decomposed, either (1) in the same form as it exists in the organism, or (2) changed into some complex organic substance.

b. If decomposed, it may exhibit any of the products of decomposition down to the purely inorganic,—*e.g.*, carbon dioxide, nitric acid,—and these may be present along with organic material, which may escape detection.

III. As to its effect: *deleterious*, or *harmless*.

This classification is sufficiently extended for our purposes.

If the organic material is of animal origin, the nitrogen compounds will ordinarily be more abundant. These are the compounds which are supposed to exert the greatest influence in causing the water to be unwholesome.* Unfortunately, most of the methods will not enable us to tell of the source of the organic material, and in doubtful cases it may be difficult to decide as to the condition of the water.

If a quantity (f℥viii) of water is evaporated care-

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* The presence of ammonia, or even, perhaps, of albuminoid substances (not readily putrescible), does not of necessity render the water unfit for domestic purposes, or even prove the presence of recent organic material. A case in point is mentioned by R. Angus Smith (*loc. cit.*, p. 281), of waters from the hills of Scotland, Wales, and elsewhere, showing evidence of large quantities of ammonia, and even, according to the later researches of Prof. Wanklyn, of what he terms albuminoid ammonia, more being found in the water from these bare hills than from the rich plains. Yet there is no apparent source for injurious organic matter. This is only another instance of the doubts and difficulties of water-analysis.

fully to dryness in a clean porcelain or glass vessel, and then heated gently, the blackening of the residue will indicate the presence of the more stable organic compounds, which will all disappear by a further application of the heat with access of air. If during this latter operation there is any deflagration or rapid combustion, it indicates the presence of nitrates in the water. A very rough approximation of the amount of this organic matter can be made by weighing when dry, and again after it has been burned off. There are very few waters so free from organic matter as not to leave a blackened residue, while at the same time it would be possible to have a water rich in organic material which would leave little or no char. This test, then, is of use when the amount left is greatly in excess of the char from comparatively pure water

Allow another portion of the water to stand in a warm place, exposed to the light, for several days. Should the water become putrid or show the presence of animal or vegetable growths, either to the naked eye or by the aid of the microscope, there should be grave doubts as to the fitness of the water for domestic purposes,—the gravity of the doubt of course depending upon the extent of these conditions. It is asserted that at times organic matter is contained in water in such a condition as not to respond to the ordinary reagents until after it has undergone some decomposition. Consequently, in a suspected water, if no reactions can be obtained in the fresh water it would be advisable to let a portion stand as above, and then test.

The presence of ammonia, nitrous and nitric acids, any or all, indicates the presence of nitrogen in the water. It is possible, however, for this nitrogen to have its origin in inert organic material, or even to have an inorganic origin, and, hence, exercise no deleterious effect upon the water. Their presence is suspicious, and should always be looked for.

Nessler's reagent is perhaps the best test for ammonia. This reagent, the preparation of which is given in any text-book on analytical chemistry, and also in the Transactions of the Medical Society of Pennsylvania, x. 19, may be extemporaneously prepared by adding to a solution of potassium iodide (1 pint of salt to 20 pints of water) a solution (1 to 16) of mercuric chloride (corrosive sublimate) until a permanent precipitate is produced. Then add about twice the volume of liquor potassæ, let stand for a few days, and decant from the sediment This will be delica e enough to detect an exceedingly small quantity of ammonia; a brownish precipitate or coloration being formed, depending on the amount of ammonia present.* If there is much testing to be done, the reagent had better be prepared according to some formula.

Nitrous acid is readily detected by its power to liberate iodine from potassium iodide, which is manifested by its action on starch paste. Prepare some starch paste, add about one-eighth the volume of the solution of potassium iodide, acidulate the water with hydrochloric acid, or, preferably, sulphuric acid, in order to liberate the nitrous acid if it is combined as a nitrite, and then add the mixture of starch paste and potassium iodide. The immediate formation of the blue iodide of starch will indicate the presence of nitrous acid. It is hardly necessary to add as a caution the necessity of using pure acids and of having clean vessels; a failure to have either would render the accuracy of the results open to doubt. To test for nitric acid, the unignited residue had better be employed. Dissolve some morphia, or, better still, brucia, in a drop of sulphuric acid, on a piece of white porcelain; it should develop no color; if now a few pieces of the solid residue be added, the presence of nitric acid will be shown by a rose-red coloration in the former instance, or a deep blood-red if brucia has been used.

In many cases the organic material is readily oxidized by means of potassium permanganate. Render the water slightly acid by means of sulphuric acid, and drop a few drops of a solution of potassium permanganate; the solution becomes decolorized, owing to the permanganate giving up its oxygen for the oxidation of the organic material. This test, while not a reliable one when used with so few precautions, may, nevertheless, act as one witness among many to prove the character of the water.

When the water may be contaminated with sewer-refuse, there is a large increase of the alkaline salts, notably common salt,—sodium chloride,—the chlorine of which can readily be detected after rendering it strongly acid with *pure* nitric acid, by a solution of silver nitrate, a white curdy precipitate being formed. Since this salt is normal in small quantities in most waters, the resulting precipitate should be quite decided to indicate any sewage-matter.

There is one other test, which, while it requires more laboratory manipulation, should be noticed, since it attempts to give us intelligence of animal matter while still in an albuminoid condition. This is the test known as Chapman and Wanklyn's test (*Jour. Chem. Soc.*, xx. 445, 591), and depends on the principle that a solution of caustic potash and potassium permanganate is able to cause the nitrogen of albuminoid substances to enter into combination with hydrogen and form ammonia, which then can be detected by Nessler's reagent. To apply the test, it is first necessary to remove all ammonia in the water, as well as urea, which readily changes into ammonia; this is done by distilling a portion of the water until portions of the distillate give no reaction with the Nessler solution; then add a strong solution of potassium hydrate and a solution of potassium permanganate; collect the distillate, and examine again for ammonia. Its presence indicates albuminoid material in the water.

An examination of this sort, while it takes but a comparatively short time, may be of great value in investigating the source of a certain class of diseases. The necessity of pure drinking-water is so generally admitted, and the grave results from using impure water have been so fully written upon

* Instead of attempting to describe the reactions, it will be better for the experimenter to make a few preliminary tests with waters in which have been placed ammonia, nitric acid, albumen, urea, or whatever is to be looked for, should he not be already familiar with the reactions.

of late, that, even if it were not foreign to the purpose of this paper, it would be a vain repetition to dwell upon them.

Should such an examination be undertaken by any of our county societies for their next report, I would suggest the desirability of tabulating their results, in order to make them useful for comparison. A uniform method of reporting would aid this; and I would offer the following, perhaps as convenient as any.

Rule a sheet of paper so as to form ten columns. In the first, give the place and date of collecting the water; in the second, the topographical and geological conditions required by the resolution. The third is devoted to the physical appearance, taste, etc. In the next six place the results of the testing (no column is given for Wanklyn's reaction); while in the remaining column the other information as to zymotic diseases, and whatever information is necessary to be given, along with the name of the examiner, can be included under the heading of remarks, thus:

WATER FROM.	TOPOGRAPHY AND GEOLOGY.	APPEARANCE.	EVAPORATE TO DRYNESS AND IGNITION.	PUTRESCING TEST.	POTASS. PERMANGANATE.	NESSLER'S TEST.	STARCH AND POTASS. IODID.	MORPHIA OR BRUCIA.	REMARKS.

PHILADELPHIA, 129 NORTH 18TH STREET.

NOTES OF HOSPITAL PRACTICE.

JEFFERSON MEDICAL COLLEGE.

CLINIC OF PROF. S. D. GROSS.

Reported by D. C. ALLEN.

STRANGULATED FEMORAL HERNIA—SYPHILITIC CARIES OF THE LEG—STONE IN THE BLADDER.

CASE I.—The first case, gentlemen, that I shall bring before you is a woman, aged 40, suffering from strangulated femoral hernia. She has been troubled with the affection for six years, a truss having been worn during this time. Thirty-six hours ago she was seized with severe pain in this situation, and it was discovered that the bowel had become strangulated. An attempt was immediately made at reduction, but was not successful. The patient was sent to bed, an anodyne given, and ice-bags applied to the groin. After some hours the taxis was again carefully tried, but, as before, reduction could not be effected, and an operation is therefore required without delay. This form of hernia is by far more frequent in women than in men, while inguinal hernia is more common in males. Femoral hernia may be mistaken for various affections, from which it is of great importance that it should be distinguished. The most common of these are inguinal hernia, enlarged lymphatic glands, and psoas abscess. Ordinarily but little difficulty occurs in regard to the distinction between femoral and inguinal hernia, remembering that in the former the neck of the tumor is below Poupart's ligament, while in the latter it is above that line. From an enlarged lymphatic gland or a psoas abscess, femoral hernia can generally be readily distinguished by a careful examination and an inquiry into the previous symptoms. The constriction in this form of hernia may take place either in the true hernial sac, or at the internal or external femoral ring. During the operation the patient is anæsthetized, and the thigh is flexed upon the pelvis and inverted in order most completely to relax the fascia lata in the region of the groin. I make a vertical incision three inches in length, by pinching up a fold of skin directly over the tumor, transfixing it, and cutting from within outwards. The skin and cellular tissue being divided by this incision, with great care I divide layer after layer upon the grooved director, pushing aside the lymphatic glands to avoid wounding them. The anterior sheath of the vessels is now divided, and, passing my finger up, I search for the seat of the stricture, which is found to be at the lunated border of the external ring. A probe-pointed bistoury, guarded by the finger, is passed up to the constricting band, and cutting upwards and slightly inwards the stricture is divided. Ascertaining that the bowel is in a fit condition to be returned, its contents are gently squeezed out, in order that it may be the more easily pushed back into the abdomen. Although the constriction is completely severed, freeing the strangulated bowel, yet the latter cannot be returned into the abdominal cavity, owing to its firm adhesion to the inner surface of the sac. This condition is due to the long standing of the affection, and constitutes an irreducible hernia. The wound is carefully approximated by sutures, and a compress and bandage applied. After all such operations a truss must be worn. During the after-treatment the patient must be kept at rest, anodynes given, and the bowels locked up for some days.

Case II.—The second patient is a girl, aged 21, laboring under syphilitic disease of the right leg, presenting itself in rupial ulceration of the skin and extensive necrosis of the tibia. Five years ago she had manifestations of the specific disease, and two years later, well-marked constitutional symptoms were developed. Her mother has suffered from the same disease, and the affection in this case is doubtless transmitted.

The lower two-thirds of the leg, and also the foot, are so extensively diseased that amputation is the only measure likely to be productive of any benefit. It is a matter of much moment to decide whether amputation shall be performed above or below the knee. On examination, the upper third of the leg is apparently sound, and hence I shall remove the limb a little below the junction of the latter with the middle third. The patient is under an anæsthetic, and Esmarch's bandage is applied from the foot upwards to force the blood up into the body, and the elastic cord applied to arrest hemorrhage during the operation. I shall amputate by the circular method. The integument is divided down to the aponeurosis by a circular cut, and dissected back two and a half inches. Then the muscles are divided in a similar manner down to the bone, on a level with the reverted integument. The muscles are separated from their connection with the bone for about an inch and a half, and forcibly retracted. The saw is now applied as closely as possible to the soft structures, and held perpendicularly, dividing first the fibula, and lastly the tibia. The bones are trimmed off smoothly with the bone-pliers, and the bleeding vessels secured by ligatures. The wound will be allowed to remain open for two hours, when it will be approximated with sutures and adhesive plaster. The patient, being weak and much reduced, will be put upon supporting and invigorating treatment, and, after she has sufficiently recovered, specific remedies will be employed.

Case III.—The next case requiring our attention is one of urinary calculus in a boy 13 years of age. He has had trouble in his bladder since he was two

years old, and for the last six years has had the rational symptoms of stone, such as incontinence of urine, pain in passing water, frequent micturition, and interruption in the flow of the urine. To determine with certainty the presence of the stone, a sound is introduced, and immediately comes in contact with the foreign body, which is distinctly heard and felt. The patient was prepared for the operation by administering, on the evening previous, a brisk purge, to clear out the alimentary canal. The urine has been retained for several hours, to distend the bladder moderately, to prevent injury to its walls, and to facilitate the extraction of the stone. An anæsthetic is given, the thighs are flexed upon the pelvis and separated from each other, and the buttocks brought down to the edge of the table. The staff is introduced, and the curved portion lodged in the bladder is made to bear slightly to the left side of the perineum, and hooked up closely against the pubic symphysis. Oiling the index-finger, it is passed into the rectum to promote contraction of the bowel, rendering it thus less liable to be wounded by the knife. With a slender, sharp-pointed bistoury I make the incision by entering the point at the raphé on the left side of the perineum, an inch above the margin of the anus, carrying it obliquely downward and outward a little below the level of the tuberosity of the ischium, and a little nearer to this point than to the anus. Guarding the knife with my index-finger, I extend the incision deeper, dividing some of the fibres of the transverse perineal muscle and a portion of the triangular ligament. The membranous portion of the urethra is exposed, and, feeling for the groove in the staff, the knife is passed into the bladder, dividing a portion of the neck and prostate gland. As soon as the knife enters the bladder, the urine flows out. The opening into the bladder through its neck and the prostate gland is enlarged, if necessary, with the finger; passing my finger into the bladder, I feel the stone. The staff is now withdrawn, and, introducing the forceps, the calculus is grasped and extracted. The bladder is washed out by injecting into it a full stream of tepid water from a large syringe. The patient will be placed in bed upon a draw-sheet, and, if he suffer much pain, an anodyne will be given. As the lad is very weak, and much reduced from protracted suffering, quinine and iron, with the most generous diet, will be ordered.

PHILADELPHIA HOSPITAL.

SERVICE OF DR. H. C. WOOD.

DIABETES INSIPIDUS—RECOVERY.

CHARLES T., æt. 55, a painter by occupation, entered the hospital on the 15th of September, 1874. At the time of his admission he complained of little but an all-pervading sense of lassitude and debility, which had been growing upon him for a year or more, and which finally had obliged him to throw up his occupation and enter the hospital. Upon investigation, the man was found to be of an extremely nervous and excitable temperament, but no symptom of importance was discoverable, except that he was daily passing an amount of urine much above the normal. The patient had first noticed this increase in his urine during the summer of 1873, and was inclined to ascribe it to drinking cold spring-water while much exposed to the sun. Repeated careful examination failed to show either albumen or sugar in the discharge. In other words, the case was one of diabetes insipidus.

The following table shows the date and the number of ounces of urine passed in twenty-four hours, and the treatment. The diet was uniform.

DATE.	URINE, OUNCES.	TREATMENT.
Sept. 15	168	Gallic acid, gr. x, t. d.
" 17	172	
" 25	160	Gallic acid stopped. Ordered assafœtida, gr. x, t. d.
" 30	168	
Oct. 3	180	Assafœtida stopped. Opium, gr. ss, t. d.
" 6	180	
" 9	174	
" 10	190	
" 11	178	
" 12	184	Ordered zinci valerian., gr. i; opium, gr. ¼, t. d.
" 13	160	
" 14	140	
" 15	100	
" 17	96	
" 18	56	
" 19	48	
" 25	46	
Nov. 1	43	
" 13	43	The man's general health very much improved. The treatment has been the same since October 12. All drugs discontinued.
" 30	44	Man discharged well and hearty.

TRANSLATIONS.

THE CYANIDES IN ACUTE RHEUMATISM.—Dr. A. Luton, of Rheims, publishes in the *Bull. Gén. de Thérap.*, January, 1875, an article on this subject. He begins by alluding to the innumerable specifics which have been vaunted in acute rheumatism, their very number suggestive of want of faith in any or all of them.

He specifies, in particular, propylamine and trimethylamine, as well as colchicum. Of the latter he says that it is the best remedy heretofore known, and were he to cease using the cyanides in rheumatism he should certainly return to colchicum. Its full benefit, however, is not gained until it is pushed to an almost semi-toxic extent. The factitious production of a gastro-intestinal catarrh, which is the effect of the use of this remedy, is, however, nothing in comparison to a disease which threatens existence not only at the moment but at any future time.

After describing his method of administering colchicum, Dr. Luton goes on to say that, in his opinion, the cyanides, particularly those of zinc and potassium, are destined to replace this drug in the treatment of rheumatism. He then gives a number of illustrative cases in which these cyanides were used with the happiest effect. The cyanide of zinc is a white powder, insoluble in water, easy to form into pills or to administer in suspension in some mucilaginous fluid. It possesses neither taste nor odor, and may be given without the patient's knowledge. In spite of this, its physiological and therapeutic properties are real. It doubtless dissolves in the gastric juice. The doses in which Dr. L. gives this cyanide vary from three-fourths to one and a half grains, two grains, or even three grains, in a single day. The cyanide of potassium, pure and well prepared, is perhaps to be preferred, he thinks, to the salt of zinc, on account of its evident activity. In mixture he has given it in the dose of one and a half grains a day. On account of its disagreeable taste and the rapidity with which it alters in solution, it is best administered in the form of pills, coated with silver. It is not advisable to go beyond two grains per day; though cumulative effects are not to be feared.

At a certain point the physiological effects are produced: frontal headache, vertigo, nausea, some colic, occasionally slight diarrhœa; more frequently the stomach is advantageously stimulated, the appetite improves, and digestion becomes easier. Finally, the cyanides

bring about a certain degree of general sedation, and tend to produce sleep.

"It is certain," concludes Dr. L., "that the cyanides cure acute articular rheumatism, in its original form and in its diverse transformations. It cures by shortening the duration of the disease, and by diminishing the risks of complication. Rapidity is one of the essentials of all good anti-rheumatic medication. Add to this the fact that these preparations are not hard to take, and are *anodyne*, and we fulfil the three great recommendations,—*cito, tuto, et jucunde.*" X.

PARENCHYMATOUS INJECTIONS — A NEW MODE OF TREATMENT OF SYPHILITIC BUBO (Dr. Franz Jakubowits, *Wiener Med. Presse*, Nos. 3 and 4, 1875).—In 1869, Dr. J. advocated the direct use of injections of the iodide of potassium, and claimed that good results were obtained from them in the treatment of inflamed and hypertrophied glandular tissue. Since that time he has extended their use, and has employed them in scirrhus of the breast, hyperplastic struma, scrofulous inflammation of glands, and in buboes of syphilitic origin.

His experience with injections of this salt confirmed the theoretical views which seem to make them applicable; and in syphilis they would appear to be especially indicated, since the remedy acts both locally by inducing resolution, and also upon the entire economy when once absorbed.

I. H. M., a priest, aged 26, in November, 1873, contracted an indurated syphilitic ulcer, which healed after a treatment of six weeks' duration; and on the 6th of January, 1874, the inguinal glands were found to be infiltrated and quite sensitive, and in four days there was a bubo of the size of a hen's egg upon the left side.

Owing to an unusually large number of deaths among the members of his flock, the patient was unable to rest, and the bubo rapidly got worse.

Various resolvents and cold applications were unavailingly used, and at last it was determined to employ parenchymatous injections of the iodide of potassium, with the hope that a speedy resolution might be obtained.

The tumor was at this time as large as a goose's egg, the skin upon and about it inflamed and sensitive, but no sense of fluctuation was experienced upon careful examination. On the 14th, the first injection was made, a solution of fifteen grains of the iodide and five drops of the tincture of iodine in one ounce of water being employed. The injection was made at the most prominent part of the swollen gland, the needle being introduced somewhat obliquely, so as to prevent the entrance of air and to assist in maintaining the fluid in the gland upon the withdrawal of the instrument. After about the fourth part of the contents of an ordinary hypodermic syringe had been injected, there was a feeling of resistance, and the needle was then partially withdrawn and again thrust forward, but in a somewhat different direction. This manœuvre was repeated several times, until the entire contents of the syringe had been injected. Neither blood nor pus escaped from the opening made by the syringe, but traces of pus were noticed on the needle. The patient suffered no pain from the introduction of the instrument, but during the injection complained of a painful increase of tension in the gland. After a short time the wound was dressed with carbolized adhesive plaster, and the patient ordered to spare himself as much as possible and to present himself the next day. In the evening of the same day he came, and stated that although he had been the whole day upon his feet he had felt no pain, and could move with much more freedom. The tumor, upon examination, was found to be harder, and the skin not so red, and less sensitive upon pressure.

On the 15th, a still further improvement was noted, and the injection was repeated in the same manner as before. Two more injections, at intervals of two days, were made, so that altogether but one and a half grains of the iodide and half a grain of the tincture of iodine were administered. A constant improvement took place, and after eight days there was a tumor of the size of a large nut, which in another week entirely disappeared.

The second patient was a farmer, aged 23, who presented himself on the 6th of October, saying that he had had a bubo for five weeks, which, in spite of all the treatment that had been employed, neither suppurated nor gave any signs of resolution. This bubo was no longer painful, but the man's digestion was beginning to suffer, and he was restless and could not sleep, and had night-sweats. He had been infected with syphilis three months previously, and the primary lesion had speedily healed. Upon examination, a tumor was found in the left groin which consisted of two portions, each of which was as large as a pigeon's egg, the skin over it being livid and thickened, and not movable.

The same mode of treatment was commenced at once, and continued from day to day with progressive improvement, until the operation had been ten times repeated. It is true that this mode of treatment has been used in but few cases, and that a wider experience does not always give the same success as is at first obtained; but still Dr. J. thinks that he is justified in calling the attention of the profession to the striking successes which he obtained in these two cases. W. A.

THE PATHOLOGICAL ANATOMY OF THE INSANE (*Wiener Med. Presse*, No. 3, 1875).—Professor Meynert sustains the view of Baillarger, that certain conditions are found on the surface of the brains of patients with progressive paralysis and mental disturbance, especially a destruction of the superficial cerebral layers with a thickening of the membranes, which is looked upon as an evidence of a chronic diffuse periencephalitis.

He also finds in the substance of the brains of those who have had typical progressive paralysis, with an acute exacerbation of the symptoms, the so-called serous softening of the brain-tissue. This was found, by the microscope, to be an active inflammatory process, and could not possibly be looked upon as a post-mortem change.

The results of such pathological investigations have strengthened him in the opinion which he expressed ten years ago, that the similarity in the changes in the ganglion-cells in the connective tissue, and in the vessels which are found in the brains of paralytics, with the changes in the œdematous zones about acute encephalitic deposits in the brains of others with cerebral disease, points to the previous existence of an affection related to encephalitis which has run its course in the brains of paralytics. He has found precisely the same conditions in the atrophied horn of Ammon of epileptics and in the brains of paralytics. He divides these changes into two series: the one an evidence of existing stasis, the second a proof of the solution of pre-existing stasis. By the discovery of the existence of stasis, the process which goes on in the brains of patients who suffer with progressive paralysis is proved to be of an inflammatory character. W. A.

A CASE OF ABDOMINAL TYPHUS WITH ICTERUS (Dr. M. Heilter: *Wiener Med. Presse*, No. 3, 1875).—The patient, a boy of 18, was admitted into the hospital on the 19th of September, 1874, with many of the usual symptoms of typhoid, having also the entire surface of the body, including the conjunctivæ, intensely jaundiced. Death occurred on the 21st, and at the autopsy the glands of the lower part of the ileum were found to be much swollen, and at some points near the ileo-cæcal valve brownish-yellow sloughs were met with. The liver was rather large and relaxed, its structure altered and icteric, and in the gall-bladder there was some brown bile. W. A.

PHILADELPHIA
MEDICAL TIMES.
A WEEKLY JOURNAL OF
MEDICAL AND SURGICAL SCIENCE.

The Philadelphia Medical Times is an independent journal, devoted to no ends or interests whatever but those common to all who cultivate the science of medicine. Its columns are open to all those who wish to express their views on any subject coming within its legitimate sphere.

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EDITORIAL.

BILLS OF INTEREST TO THE PROFESSION.

THERE are at present before the Pennsylvania Legislature three bills in which the profession is deeply interested, and all of which, we trust, will be acted upon favorably. The first of them is entitled "An Act to Regulate the Practice of Medicine, Surgery, and Obstetrics in the Commonwealth of Pennsylvania." It practically amounts to as follows. Any person who has been in practice in the State for ten years may continue to practise without let or hindrance, but no others shall do so unless provided with a diploma from a chartered institution which does not sell its diploma. Any practitioner not having a diploma shall have the right to apply to any of the medical schools of the Commonwealth for examination, and, if found worthy, shall be granted a certificate allowing him or her to practise. Any person who shall open a transient office, or who shall advertise such transient office or other place to persons seeking medical or surgical advice, shall satisfy the clerk of the quarter sessions that the provisions of the act have been complied with, and shall also take out a license for one year, paying therefor the sum of two hundred dollars into the county treasury. A fine not exceeding five hundred dollars, or imprisonment not exceeding one year, is the penalty imposed for violation of the enactment.

On the whole, we think this bill a very good one, although, of course, we should like to have seen it go further. Believing as we do that a diploma from the medical schools is no guarantee that its possessor is in any degree fitted for the practice of medicine, we would have preferred a State Board of Examiners before whom every aspirant for practice should appear. As, however, this is a democratic community, we suppose interference with the power of the medical schools to grant the right to kill would not be tolerated, and, not being able to get the whole loaf, let us be thankful for the half of it. The bill will, if enacted and enforced, do away with two great evils,—practising without a diploma, and peripatetic quackery.

The second act has for its object the creation of a State Board of Health, to consist of five physicians, appointed by the Governor with the advice and consent of the Senate, together with the Attorney-General of the State and the Secretary of Internal Affairs. This board is to serve without salary, but their actual expenses when travelling, and the necessary clerical expenses, are to be paid by the State. The Secretary of the Board, who must be a physician, is to be elected by the Board, and is to receive a salary not exceeding three thousand dollars. The Board has also power to expend moneys in special sanitary investigations; but the whole expenses are not to exceed eight thousand dollars a year.

We have not space here to detail the various duties which are pointed out, but the proposed act seems to us an excellent one, and, so far as we can see, good in all its details.

The third professional bill before the Senate at Harrisburg is to "authorize the use of unclaimed bodies of convicts and others for the promotion of the medical sciences." It is quite long, and we have not space for its analysis, but it seems to us very fair and wise in its provisions.

THE WARREN PRIZE.—We would call attention to the advertisement of the Warren Triennial Prize. This was provided for in the will of the late J. Mason Warren, in honor of the memory of his father, John C. Warren. The trustees of the fund are those of the Massachusetts General Hospital, and a committee of the staff of the hospital constitutes the judges. No essays were presented for the prize of 1874, for which year the subject proposed was "The Elimination of Drugs by the Mammary Gland." No special subject is given for 1877, but competitors have the full latitude allowed by the will to choose any subject in physiology, surgery, or pathological anatomy, involving original researches. The only prize as yet taken found its way to this city; and we trust that hereafter the like result will be so common as to be looked upon as a matter of course.

LEADING ARTICLES.

THE USE OF COLD IN FEVER.

NO. IV.

IN concluding this series of brief articles upon the treatment of pyrexia by the abstraction of heat, it only remains to consider the various methods of attaining the desired end. These methods are divisible into two sets: those in which water is brought in direct contact with the person of the patient, and those in which the bodily temperature is reduced by the application of bags containing ice or water.

The first of these general plans is undoubtedly the most efficient, and has been the one generally employed. In selecting a special mode of application, it must be borne in mind that no good is achieved unless the temperature of the body is reduced and *kept down*. The clinical thermometer must always be the guide as to the efficiency of the application, and the latter must be renewed so soon as the fever-heat re-manifests itself. The *cold pack* is the least troublesome, and generally the least disagreeable, of all the methods of applying cold water. Unfortunately, it is not sufficiently powerful to act decidedly upon adults suffering from intense fever. I have seen it time and again fail to make the slightest impression. When it is employed, the bed should be covered with an india-rubber blanket or cloth, the sheet wrung out, not too dry, in water as near 32° F. as is convenient, and wrapped closely round the naked person of the patient. No other covering should be allowed; or, if demanded by modesty, it should consist simply of a sheet loosely thrown over the person. If the patient be enveloped in blankets, all anti-pyretic influence is lost, and the pack soon becomes really a warm sweat-bath. The continuance of the cold pack should vary *pro re nata* from five to ten minutes, at the end of which period the sheet is usually thoroughly warmed. Its power is greatly increased by sprinkling it every five minutes with ice-cold water from the spray-nozzle of an ordinary watering-pot; in this case the application may be continued for a long time, if necessary. The number of packs to be used in the twenty-four hours depends entirely upon the rapidity of rise in the bodily temperature: whenever the latter gets to 102° in the axilla, the sheet should be replaced. If the cold pack in any case is unable to reduce the temperature to 102° F., it should be set aside; indeed, as already intimated, it is not applicable to *adults* suffering from a high grade of fever; in *children* its effects are more pronounced.

The bath is used in various ways, but these may be practically considered as modifications of two, or at most three, different plans: that of the lukewarm bath, used as such, or in the modified form known as the method of Ziemssen, in which the bath is gradually cooled whilst the patient is in it; that of Brandt, in which very cold baths of short duration are given; and that of Currie, in which cold affusions are practised.

The use of lukewarm baths (85° F.) in fever has not met with much favor. It would appear at first sight that a cool bath would simply require a longer time than a cold bath in order to reduce bodily temperature to the one point. The experiments of Liebermeister have shown, however, that the tepid bath is in no degree comparable to the cold bath in its effects on bodily heat. As illustrative of the inequalities of results obtained by different but apparently equivalent methods of abstracting heat, may be mentioned the fact, apparently proven by Liebermeister, that the influence of two short cold baths at a brief interval is much greater than that of one bath of like temperature whose duration is equal to that of the two short ones. It has also been found in practice that whenever in the adult the fever is high, tepid bathing has very little influence upon it. Such baths may, however, be employed in very feeble persons where the pyrexia is not very marked. Upon children the lukewarm bath is said to produce much more decided effects than it does upon adults.

The researches of Liebermeister indicate that the larger the patient is, the cooler must the bath be in order to influence the bodily temperature. In judging of the effect of a bath, it must never be forgotten that often the temperature continues to fall for some minutes, or even for hours, after removal from the bath. This is especially true in cases of acute pyrexia; under these circumstances serious results are said to have been produced by keeping patients in the bath too long, waiting for the temperature to reach the normal point.

Ziemssen modified the use of the tepid bath by gradually cooling it while the patient was in it by the addition of water at a low temperature. This is, of course, an efficient procedure, capable of producing any effect that can be obtained by the abstraction of heat. Caspari (*London Med. Record*, 1873, vol. i. p. 796) believes that in very feeble subjects the use of cold baths should be superseded by the method of Ziemssen. He places such patients in a hip-bath at a temperature of 80° F., and, whilst the upper part of the body is vigorously rubbed, pours over it water at 60° until the temperature of the bath is lowered to 62°, occupying about fifteen minutes in the procedure. On the other hand, Glénard calls attention to the fact that the long gradual bath is much more wearying and exhausting to the patient than the short decisive plunge, and affirms that in his experience it is no less disagreeable to the sick man. Further, the clinical results achieved by Liebermeister, Glénard, and others prove that adynamia, except of the gravest kind, is not a contra-indication to the use of the cold bath: so that it seems to me that the choice between the cold plunge and the gradual cooling is to be determined by the exigencies and circumstances of the individual cases; either may be employed with the one result, provided it is always carefully seen to that the measures used are severe enough, and are put into application with sufficient frequency to keep the axillary temperature below 102½° F.

The exact manner in which Brandt's method should be employed is briefly but sufficiently summarized in the following instructions to the nurses at the Croix

Rousse Hospital, Lyons. They represent the exact plan employed by Glénard, who, it will be remembered, contends that no typhoid-fever case will die if treated in this way from the beginning.

"The nurse will every three hours take the rectal temperature of the patient, and give him a bath at 20° C., of fifteen minutes' duration, night and day, until the thermometer placed in the rectum for five minutes does not register 38.5° C. The patient is taken to the bath, his night-dress removed, and he is plunged *up to the neck* in the water at 20° C., while the head is sprayed at 6°–8°, especially where there are cerebral symptoms. After the nervous symptoms have abated, the spray may be given at the same temperature as the bath. The affusion having lasted one or two minutes, the nurse rubs the limbs of the patient for three or four minutes; then he is left at rest. His breathing may become difficult, and his teeth may chatter, but he must remain in the bath for fifteen minutes. When he is about to be removed from the bath, the affusion is to be repeated. He should be kept at least fifteen minutes in the bath, even should the shivering set in from the commencement; and longer, should the shivering be late of appearing. He is then removed, his night-dress put on without drying him; a sheet is thrown over his feet; his mattress should be hard enough not to yield to the weight of his body, which should be covered by a sheet in summer (also by a light linen cover in winter). A little weak tepid soup is now administered, along with a mouthful of old wine, and he is left alone to rally from his shivering, which lasts fifteen to twenty minutes, sometimes for even an hour. Fluid nourishment should be given regularly, and always tepid. If the patient is very weak, a spoonful of old wine may be administered before the bath."

Cold affusions were practised very largely by Currie in various pyrexiæ, with undoubtedly most beneficial effect. He used water at from 40° to 50° F.; from a bucketful to four or five gallons being poured over the naked patient as he sat in a bath-tub. This affusion was repeated as often as was necessary to keep down the bodily heat. Currie supposed that the chief good was owing to the shock of the cold dash, and others also have claimed that the douche exercises some obscure reflex influence upon the nervous system. This is possible; but it does not appear to have been proven that the shock of the cold dash is greater than that of the cold plunge, or, indeed, that in either case the shock is other than deleterious in fevers. As an anti-pyretic measure, the simple cold affusion seems to me to be more troublesome and more terrifying than cold bathing, and, according to the researches of Liebermeister, it is much less powerful.

In order to avoid the labor to the nurse and the uneasiness to the patient which are involved in the use of cold water, various contrivances have been suggested for the refrigeration of those suffering from fever. Wet compresses or large bags filled with ice are often employed in Germany as adjuvants to more energetic measures, in order to lessen the number of baths required. They should be kept constantly applied unless the thermometrical record indicate otherwise.

It has also been proposed to encircle the patient with india-rubber tubing through which cold water is kept circulating.

Leube (*Deutsches Archiv für Klin. Med.*, 1871) claims that he has obtained the best effects from the use of ice mattresses. The details of his method are as follows:

"Two parallelogrammatic water-tight bags of india-rubber cloth, the one measuring unfilled twenty-eight inches long and eighteen inches broad, the other twenty-four inches long and eighteen inches broad, are to be filled with a freezing-mixture, composed of ice and salt. In order to allow comfort to the patient, the ice should be reduced to a powder and passed through a sieve. After five or six pounds of this ice-powder have been put into each bag, one to one and a half pounds of salt are to be thrown into each, and the orifice closed. Two bandages are then laid transversely across the bed, and the ice-bags are placed on them in such a way that the shorter corresponds to the trunk, the longer to the legs of the patient, who is to be laid upon the ice-bags after they have been covered with a gum blanket and a linen sheet. By means of the bandages the man is then tied down, one band passing over him above the knees, the other above the navel, and covered over with bed-clothes. The patients are said rarely to complain of the cold, and may be allowed to remain upon the ice mattress from an hour to an hour and a half."

If this plan is really efficacious in reducing the temperature, it offers such obvious advantages over cold bathing that it must eventually largely supersede the latter.

H. C. W.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, JANUARY 15, 1875.

THE PRESIDENT, DR. WILLIAM PEPPER, in the chair.

I. *PERITONEAL tuberculosis.*
II. *Contracted kidneys and hypertrophied heart.*
III. *Cirrhosed liver and congested stomach.*

Dr. F. P. HENRY presented the specimens, and read the following histories:

"I. J. H., æt. 40, was admitted to the male medical ward of the Episcopal Hospital about August 1, 1874, for diarrhœa, and, after remaining for six or seven weeks, was discharged apparently cured. He was again admitted about three weeks ago, the diarrhœa having returned, and was first seen by me at that time.

"His symptoms on admission were—extreme emaciation, great feebleness, and profuse diarrhœa, averaging from twelve to fifteen watery stools in the twenty-four hours. There was no complaint of pain, and no cough. The abdomen was retracted, and slightly tender on pressure.

"A variety of remedies were used, without effect, to check the diarrhœa, which, before death, became an almost continuous watery discharge.

"The *autopsy* was made by Dr. Merrill, the resident physician, eighteen hours after death.

"The *right lung* was found to contain a number of miliary tubercles unevenly disseminated through its tissue, but could hardly be said to be *infiltrated* with these bodies. There was a cavity about the size of an egg at the apex, very superficially seated in the lung-tissue.

"The *left lung* was hepatized in the upper half of the superior lobe; a portion cut off sank in water. Tubercles were also found in small quantity in this consolidated portion and throughout the remainder of the lung.

"The *heart* was healthy.

"The *intestines* were covered with tubercles from the duodenum to a short distance below the ileo-cæcal valve.

"The *mesentery* also contained these bodies and numerous enlarged glands.

"A flattened tumor, several inches in circumference (about six), was found in the mesentery at or near its junction with the vertebræ. It is supposed to consist of a mass of tubercular mesenteric glands.

"The *mucous membrane of the intestine* was pale, but apparently healthy; there was no appearance of tubercle or ulceration in it.

"The *stomach*, *liver*, *kidneys*, and *spleen* were healthy.

"The urine was examined before death, and found free from albumen.

"I would like to ask the opinion of the Society as to the cause of diarrhœa in this and similar cases.

"In *this* case, it has occurred to me that the tumor found in the mesentery might have caused pressure sufficient to paralyze some of the sympathetic fibres supplying the small intestine, and thus have given rise to a state of congestion which relieved itself by a transudation of serum.

"If nerve-fibres should be found to be involved in this mass, support would be given to this theory.

"No traces of inflammation were found in the peritoneum.

"II. The specimens of *contracted kidneys and hypertrophied heart* were taken from a girl æt. 17, who was admitted to the Episcopal Hospital on the 7th of December.

"She presented the typical symptoms of chlorosis,—a greenish-yellow skin, pearly conjunctivæ, amenorrhœa, and a marked continuous musical murmur heard on applying the stethoscope over the course of the internal jugular vein. There was also a blowing murmur with the first sound of the heart, heard most distinctly at the apex.

"Under the use of iron and quinia the girl steadily improved up to December 16. At this time she became more feeble, lost her appetite, and complained of colicky pains in the abdomen. Her condition remained about the same until the evening of December 18, when she became partially comatose, and died at midnight.

"At the *autopsy*, ten hours after death, the *left ventricle* of the heart was found hypertrophied, and the *kidneys* contracted.

"The *lungs* were perfectly healthy, as were also all the abdominal organs except the kidneys.

"The cortical portion of the kidneys is atrophied, and the kidneys are quite small; but it must be borne in mind that the patient furnishing these specimens was a remarkably small individual, not five feet in height, and weighing, I should say, under one hundred pounds when in an ordinary state of health, so that the small size of the kidneys may be more apparent than real.

"This is believed to be a case of simple hypertrophy of the heart caused by contracted kidneys.

"III. The third set of specimens was removed from a woman æt. 53, who was admitted to the hospital on December 8, 1874. She first noticed a fulness of the abdomen in July last, which increased for three or four weeks and then disappeared under medical treatment. Early in October the abdomen began to enlarge again, and continued to do so until she applied for admission.

"At that time there were all the signs of abdominal dropsy, which existed in so great a degree as to cause orthopnœa for the first two or three days after admission. There was also well-marked jaundice, and some œdema of the legs and feet. The abdominal distention was so great that the liver could not be felt, and this distention rendered it also impossible to determine accurately the vertical diameter of the liver. The bowels were moved three or four times daily without medicine.

"There was no albumen in the urine. As the patient refused to submit to tapping, elaterium in daily doses of one-tenth grain was given, but produced no increased action of the bowels; on the contrary, the bowels became rather more constipated.

"On the 18th, the skin on the back and legs ruptured; this was followed by a steady discharge of serum. The abdomen became softer, but the constipation became more obstinate, and about this date she was given one-tenth grain of elaterium hypodermically; this produced no effect, and was repeated on the 20th. The elaterium again produced no effect. On the 22d, there was slight discharge of fæces in response to an enema.

"The patient became gradually weaker, the jaundice more intense, and a mild, cheerful delirium supervened.

"For the last two days of her life she swallowed with difficulty, and was supported almost entirely by nutritive enemata.

"At the *autopsy*, six hours after death, the *abdomen* was found distended with yellowish serum; the *liver* hard, covered with nodules, and of a brownish-yellow color; weight, three and a half pounds.

"*Spleen* much enlarged and congested, its capsule thickened and opaque, but easily detached.

"*Kidneys* healthy; *heart* also healthy.

"Commencement of *aorta* atheromatous.

"*Lungs* hypostatically congested, otherwise healthy.

"The *stomach* contained a quantity of coagulated blood, which must have been poured out shortly before death, as no hæmatemesis had taken place. Mucous membrane of stomach reddened and swollen."

Dr. WHARTON SINKLER said that the patient from whom the first specimens were derived had been under his care during almost the whole of his term of service, which had immediately preceded that of Dr. Henry. His illness began with an attack of poisoning, apparently by the rhus toxicodendron, and he stated that he had been in perfect health up to that time. Immediately after this, diarrhœa came on.

When admitted to the hospital, about four weeks later, his arms, hands, and face were covered with eczema, and there was a profuse and obstinate diarrhœa. The diarrhœa was finally checked, and there were no lung-symptoms; but during convalescence there appeared to be some loss of power in the lower extremities, and, if Dr. S. remembered rightly, some disordered sensation.

He desired to know whether the spinal cord had been examined, and whether there remained any traces of the skin-affection.

Dr. HENRY replied that the cord had not been examined, and said that while the patient was under his observation there was no loss of power in the limbs except such as could be attributed to wasting and weakness.

Epithelial cancer of rectum.

Dr. LEONARDO S. CLARK presented the specimen, for Dr. ABRAHAM S. GERHARD. Mrs. Christine S., æt. 52 years; a widow for four years; housekeeper; native of Würtemberg, Germany; had borne four children; no miscarriages; no previous disease of consequence; past the climacteric six years; no carcinoma in family from grandparents down, so far as known; suffered

from lateral curvature of the spine (to the right) from childhood, the cause of which is not known; she has children aged respectively thirty-two, thirty, twenty-four, and sixteen years, all healthy; husband died of general carcinomatous degeneration of lungs, pancreas, and mesenteric glands.

Mrs. S. was of phlegmatic temperament, had blue eyes, light-brown hair, and a gentle disposition. The peculiar cachectic appearance was well marked.

Nine years ago she first noticed a lancinating pain in the rectum. She never mentioned it for a period of nearly seven years, although she suffered greatly at times. Two years ago she complained to one of her daughters that "her womb was forced down." The fact was communicated to her physician, but, on account of her great diffidence, no personal examination was made until about one year ago, when it was found, upon both vaginal and rectal examination, that the womb was retroverted and prolapsed, and that this displacement of the organ was caused by a large tumor of the rectum above it, which tumor was to the touch hard, nodulated, and cartilaginous. *Cancer of the rectum* was immediately suspected, and the diagnosis was subsequently confirmed by Drs. Goodman and Merklein.

The symptoms from that time until death were those of sharp, lancinating pain through the pelvis, great difficulty in defecation, accompanied with excessive tormina and tenesmus, partial protrusion of the uterus and posterior portion of bladder, with general failing of strength. On New-Year's day she paid a visit to her physician, although in great pain and distress, and on the morning of the 2d of January she died with symptoms of obstruction of the bowels, although there was no stercoraceous vomiting.

The *post-mortem* examination was made by Dr. L. S. Clark, twelve hours after death.

Rigor mortis was well marked; the body was emaciated, and the belly enormously distended with gas; its integument was partially decomposed.

Upon dissection, the peritoneum was found to be universally injected, and there were a few pelvic adhesions. The small and large intestines were greatly distended with gas and fecal matter, which had to be evacuated before the pelvic organs could be removed.

Upon removal of the latter, the uterus and bladder protruding through the vulva, a hard, cartilaginous, nodulated mass was found occupying the rectal walls for a distance of about six inches in length and two and a half inches or more in diameter, starting from within three inches above the sphincter ani. To this was adherent a portion of the small intestine. All the other pelvic and abdominal organs appeared to be normal, except that there was some erosion of the os uteri.

A longitudinal section of the diseased part showed the canal to be pervious, the mucous membrane near the centre of the diseased mass to be ulcerated and of a dark congested appearance. The knife, in passing through the morbid tissue, grated, and the part felt dense. The cut surface was white and streaked.

The PRESIDENT inquired of the surgeons present whether the submucous form of cancer of the rectum, of which this appeared to be an example, was more frequent in their experience than that attended by outgrowths from the mucous membrane encroaching upon the lumen of the canal. His own experience furnished more of the latter variety than of the former.

Dr. JOHN ASHHURST, JR., said that no doubt, in the majority of cases, the growths ultimately involved the mucous membrane and projected into the bowel, but in the early stages the mucous membrane might not be involved. In the case just reported, he thought that the fatal result was due not so much to the existence of cancer as to the presence of some independent source of obstruction (such as a volvulus), as shown by the fact that after death the bowel was found pervious. Probably had this patient lived longer, and the disease thus been allowed to run its course, the mucous membrane would have become implicated, and the growth would have protruded into the gut, perhaps itself eventually producing fatal obstruction.

Dr. R. M. BERTOLET was inclined to agree with Dr. Pepper that cancer of the rectum most frequently manifested itself in a protrusion of the mucous membrane towards the lumen of the tube. Indeed, Billroth has pointed out that the rectum is the favorite seat of that form of epithelial growth known as adenoma, which, beginning as a hypertrophy of the follicles of the mucous membrane, involves the outer portions of the bowel secondarily.

The PRESIDENT said he had been impressed with the difference in the appearances produced by cancerous infiltration of the submucous tissue in different parts of the alimentary tract. Thus, at the pyloric orifice the disease very often goes on to extreme obstruction without ulceration, and especially without formation of growths projecting from the mucous surface. In cases of cancer of the rectum, even in its early stages, on the other hand, it had seemed that there was much more frequently, in addition to submucous thickening, more or less of such free growth.

Dr. PEPPER desired also to know whether it did not coincide with the experience of the members where death has ensued during organic disease of the bowel to find at the autopsy a greater degree of apparent perviousness than was anticipated before death, when, indeed, the bowel might seem to be almost completely obstructed.

Dr. ASHHURST said that the remarks of the President were no doubt correct. As he (Dr. A.) had already remarked, he did not doubt that in this instance the fatal obstruction was due to a twisting of the bowel or to some similar cause, and that the patient therefore actually died from intestinal obstruction, and not from cancer.

The specimen was referred to the Committee on Morbid Growths, which reported, February 11, 1875, as follows:

"The rectal tumor presented by Dr. Clark is an epithelial carcinoma.

"The peripheral portions of the growth show not only a regular cylindrical arrangement of the epithelial elements, but also a distinct limiting membrane or tunica propria. In the more central portions of the tumor the arrangement is less suggestive of a glandular structure; the tunica is absent, and the connective-tissue stroma is more richly developed, but not to such an extent as to warrant the designation of scirrhus."

(To be continued.)

GLEANINGS FROM OUR EXCHANGES.

TREATMENT OF TRAUMATIC ANEURISM (*The Lancet*, December 12, 1874).—Mr. Bryant gives three cases of aneurisms which were the results of wounds of healthy vessels, and were situated on parts easily accessible. In these respects they differ greatly from aneurisms due to disease or degeneration of the arterial walls, and from aneurisms deeply situated or springing from the great vessels in or near the trunk. For these the treatment by incision has not received the sanction or approval of the majority of English surgeons. But for those following wounds, treatment by incision into the sac, and the application of a ligature or of torsion to both ends of the artery, is constantly practised, and has been

attended by marked success. This difference is easily accounted for. In traumatic aneurisms the artery is, in the majority of instances, otherwise healthy, is readily closed, and speedily repairs; but the case is different where the aneurism springs from a diseased vessel, for then the condition of the artery will not usually permit the application of a ligature or of torsion, or the vessel will not take on proper reparative action, so that secondary hemorrhage is liable to occur in a shorter or a longer time.

The chief difficulty in treating an aneurism by incision and by closing both ends of the divided vessel is, of course, the severity of the hemorrhage during the operation. But this difficulty may, as a rule, be easily overcome by pressure on the main trunk, or by pressure on the open mouths of the vessels in the sac. In cases of more than ordinary difficulty, the Esmarch bandage may be applied with great advantage where the aneurism is situated in the extremities. By this means the limb may be thoroughly exsanguinated, and the operation rendered as facile as in the cadaver.

NÉLATON'S METHOD IN CHLOROFORM-NARCOSIS (*The American Practitioner*, February, 1875).—Dr. M. H. Jordan reports the case of a girl, æt. 18, to whom chloroform was administered preparatory to the extraction of a tooth. After four or five inhalations, some spasmodic movements were observed, the pulse became excessively small and feeble, and, together with the respiration, soon ceased to be perceptible. The entire muscular system was completely relaxed, and the lips, face, and hands grew livid. The patient's body was immediately inverted, the jaws were pried open, and efforts at artificial respiration were made by alternately pressing in the thorax and abdomen. After about five minutes had elapsed, there was a feeble attempt at respiration, followed after a long interval by others, and a gradual return of the pulse, until it was deemed safe to place her on a bed. As soon as she was put in the horizontal position, however, the breathing again ceased and the pulse disappeared. She was again instantly placed with her head downwards, and artificial respiration was renewed. After a prolonged interval, the breathing was re-established, and the pulse again returned. There was no further trouble, except an inclination to stupor, which was counteracted by stimulating applications to the spine, and hot foot-baths.

NEURALGIA OF THE LARYNX (*The Medical Press and Circular*, January 20, 1875).—Dr. Clinton Wagner has found that neuralgia of the larynx is occasionally met with as a true neurosis, and independent of any other morbid process in the same individual.

The pain, which is at times intense and agonizing in its character, is felt along the thyroid cartilage and anterior part of the neck, the nerves implicated being the superior and inferior laryngeal, especially the former.

There is also at times a feeling of oppression or choking; the voice is weakened, and the pain increased when the least exertion of it is made.

The treatment he has found most successful has been large doses of tinct. iron and quinine, and insufflations of tannic acid and morphia into the larynx. Aconite liniment over the seat of pain gives temporary relief. Counter-irritation from blisters or tinct. iodine have been recommended. Hypodermic injections of morphia are also useful. Electricity in the form of the faradic current, in the few cases he has employed it, has had the effect of increasing the pain from the muscular excitation it produces, and the constant current in his hands has failed to give the relief claimed for it by others who have used it.

BLEEDING FUNGOUS GROWTH FROM THE URETHRA (*The Lancet*, December 12, 1874).—Mr. Hutchinson reports the following case: A woman, aged thirty-three, had suffered for five or six years from a bleeding growth of the urethra. The bleeding first came on about five years ago, after severe muscular exertion. The patient had been in several hospitals, without gaining any permanent relief. Four years ago the growth was removed by the knife and the cautery, but returned. Since then she has been subject to severe hemorrhages from the part. The actual cautery was recently applied, with some relief from the bleedings for a few days.

The interest of this case lies in the fact that there is a family history of the hemorrhagic diathesis, and also of recurrent (malignant?) growths. The mother's sister had a "bleeding cancer of the lip," which was removed, but re-formed on the tongue. One sister is subject to severe epistaxis, and the patient's son has been affected with epistaxis for three years. Another child died at the age of six years with bleeding from the nose and mouth. A sister of the patient has severe floodings after parturition, and has also a large red tumor of the left upper eyelid, which has been removed twice.

MISCELLANY.

GARIBALDI AS A SANITARY REFORMER.—Few meetings of modern times have been more interesting than that of King Victor Emanuel and General Garibaldi. It was a fitting epilogue to the glorious drama of Italian unity. But the subject of their conversation was not less noteworthy. It was the sanitary improvement of Rome by the cultivation of the Campagna and the embankment of the Tiber. This is an old project of Garibaldi's, which he has kept in the background till the flag of united Italy floated from the Capitol. The cry of "Roma o morte!" he has now exchanged for that of "Roma e vita!" and with characteristic foresight and fervor he has seen and determined the two points to be attacked, and the king listened to them and promised his hearty co-operation. For effecting this sanitary revolution Garibaldi proposes the employment of relays of the Italian army and of the laboring classes of the Roman province in the prosecution of the works on the Campagna and the Tiber; and the idea, fairly considered, is by no means a Utopian one. Who but the legionaries under the old republic constructed the roads and the walls whose convenience and strength have been the admiration of modern times? And what better occupation could be found for Italy's overgrown army than the employment of detachments of it in breaking up the waste land of the Agro Romano and preparing it for its old agricultural uses? The embankment of the Tiber and the regulation of its course is a similar task not less appropriate for the *cives Romani* of these days, whose aspiration it should be to make Rome the centre of more masculine interests than those of the *dilettante* and migratory foreigner. Money—the weak point of all Italian undertakings—must, of course, be provided; and abler financiers than the present purse-bearers of Italy must arise before the sanitary improvement of Rome can be satisfactorily begun.—*London Lancet.*

A CORRESPONDENT writes to us as follows: "Why is it that medical schools are so far behind the times? Why are medical degrees given away so freely? The value of a thing is generally estimated by the time and labor required to obtain it: if this be the case, an M.D. is not worth as much and is not so respectable as a horse-doctor's degree (D.V.S.). To obtain the former, one has to spend a year at a medical school and make the faculty believe that he has opened a medical book once in a while during the last three years; to get the latter, one has to study six years at a good school. Still we think ourselves better than horse-doctors. The medical schools think too much of patronage. It seems as if their object is rather to make money than to increase the value of the degree. A degree of M.D. should be made as honorable as that of Ph.D. or of Sc.D. Why should not students be obliged to pass a preliminary examination?"—*Boston Medical and Surgical Journal.*

A LEDGER and set of day-books for the use of physicians has just been published by Mr. U. L. Hitchcock, of New York, on a new and very simple plan. The day-book is in twelve sections, one for each month, each one so small as to be easily carried as an ordinary pocket-book. The account of each patient is kept on two horizontal lines, one for charges and the other for credits. The totals for the month, which can be seen almost at a glance, are to be transferred monthly to a ledger of four hundred pages, in which each patient's account is extended on two lines, similar to those of the day-book, to the end of the year. The work of posting is thus rendered exceedingly simple and rapid.

WE desire to call attention to the "Case Record Book." There are two books, one for the office and the other for the pocket. The latter is really a visiting-list, formula-writer, prescription-blanks, and a tag upon which a copy of the prescription given, and any notes of the case, may be recorded. To all in large practice these books must prove a great convenience.

THE motto over the main entrance to the hospital at Vienna is "Saluti et solatio ægrorum," and that over the Anatomical and Pathological Institute is "Indicandis sedibus et causis morborum." On these two principles the science of medicine may truly be said to be built.—*London Lancet.*

FROM the Report of the Peking Hospital for 1873, by Dr. John Dudgeon, we learn that the aged, infirm, and debilitated generally are recommended by Chinese physicians to drink urine to restore health!—*Medical Times and Gazette.*

ACCORDING to the *Wiener Medizinische Presse* for January 3, the first dental school has just been announced in Vienna. The course of lectures and practice lasts six months, the school being open from 8 A.M. to 5 P.M.

AN ice-inspector has been appointed in London, whose duty is to examine and certify to the safety of the ice in the public parks.—*Boston Medical and Surgical Journal.*

NOTES AND QUERIES.

MEDICAL OFFICERS OF THE BRITISH NAVY.

THE following Order in Council has been issued:

"At the Court at Osborne House, Isle of Wight, the 4th day of February, 1875.

"Present—The Queen's Most Excellent Majesty in Council.

"*Whereas*, There was this day read at the Board a memorial from the Right Honorable the Lords Commissioners of the Admiralty, dated the 1st of February, 1875, in the words following:

"'*Whereas*, We have had under our consideration the position of the Medical Officers of your Majesty's Navy; and, whereas, we are of opinion that it will be for the benefit of your Majesty's service that the following regulations shall be established, we beg to submit them most humbly for your Majesty's approval:

"'1. That Surgeons on entry shall have the same relative rank as Paymasters, Chief Engineers, and Naval Instructors,—namely, shall rank with Lieutenants under eight years' seniority, and shall have uniform corresponding to such relative rank.

"'2. That Staff-Surgeons shall be denominated "Fleet-Surgeons," and Staff-Surgeons second-class simply "Staff-Surgeons;" the distinction in rank between these two grades to be denoted by a small difference in the uniform.

"'3. That Inspectors-General shall be compulsorily retired at the age of 60, on £2 per day, provided they shall have completed the period of service now required to entitle them to the *maximum* half-pay of their rank.

"'4. That Deputy Inspectors-General shall be compulsorily retired at 60, if in the first six of their rank, at 33s. per day, others at 30s. per diem, provided that they shall have completed the period of service now required to entitle them to the *maximum* half-pay of their rank.

"'5. That Fleet-Surgeons and Staff-Surgeons shall be placed on the same scale of retirement as Chaplains and Naval Instructors, Secretaries, and Paymasters; that is, the *maximum* to be £450 per year instead of £400.

"'6. That any Fleet-Surgeon shall have the option of retiring after twenty years' full-pay service in all ranks at 15s. per day, and after twenty-five years' service at 21s., subject in each case to our approval; but that of those now on the list, not more than ten shall retire under this clause in each year (the officers having the option according to seniority), unless we should approve (with the consent of the Lords Commissioners of your Majesty's Treasury) of a larger number so retiring.

"'7. That of the medical officers to be hereafter entered, all shall have the option of so retiring, subject to our approval in each case; and we beg leave to represent to your Majesty that the Lords Commissioners of your Majesty's Treasury have signified their concurrence in the proposed arrangements.'

"Her Majesty having taken the said memorial into consideration was pleased, by and with the advice of Her Privy Council, to approve of what is therein proposed. And the Right Honorable the Lords Commissioners of the Admiralty are to give the necessary directions herein accordingly.

"ARTHUR HELPS."

—*London Times*, February 6, 1875.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

THE next conversational meeting will be held at the hall of the College of Physicians, Wednesday, March 10, at 8 o'clock P.M.

Dr. James Tyson will read a paper; subject, "The Treatment of Bright's Disease of the Kidney."

The medical profession in the city are cordially invited.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY, FROM FEBRUARY 23, 1875, TO MARCH 1, 1875, INCLUSIVE.

SMITH, A. K. SURGEON.—Relieved from duty in the District of New Mexico, and assigned to duty at Fort Hays, Kansas. S. O. 21, Department of the Missouri, February 18, 1875.

WHITE, R. H., ASSISTANT-SURGEON.—Granted leave of absence for two months, with permission to apply for an extension of six months. S. O. 41, Military Division of the Atlantic, February 26, 1875.

YEOMANS, A. A., ASSISTANT-SURGEON.—At the expiration of his present leave of absence, to report in person to the commanding officer, Newport Barracks, Kentucky, for duty. S. O. 31, A. G. O., February 23, 1875.

ADAIR, G. W., ASSISTANT-SURGEON.—When relieved by Assistant-Surgeon Yeomans, to report in person to the Commanding General, Department of Texas, for assignment to duty. S. O. 31, C. S., A. G. O.